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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,675	06/25/2003	Srinivasan Venkatesan	OBC-110.1	3783

7590 09/12/2006

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EXAMINER

WEINER, LAURA S

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,675

Applicant(s)

VENKATESAN ET AL.

Examiner

Laura S. Weiner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6-25-03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION***Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 15-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 7 of U.S. Patent No. 6,617,072. Although the conflicting claims are not identical, they are not patentably distinct from each other because US Patent No. 6,617,072 claims a battery cell comprising a negative electrode comprising a hydrogen storage alloy active material; a positive electrode comprising an active composition comprising a nickel hydroxide material, a carbon material and an elastomeric polymer and an electrolyte. Claim 2 claims that the active composition is a paste. Claim 3 claims that the elastomeric polymer can be styrene-butadiene, styrene-butadiene block copolymer, styrene-

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isoprene-styrene block copolymer and styrene-ethylene-butadiene-styrene block copolymer. Claim 4 claims that the carbon material comprises graphite. Claim 5 claims that the graphite has a crystallite height greater than or equal to 95 nm. Claim 7 claims that the electrolyte is an alkaline electrolyte.

US Patent No. 6,617,072 claims the same invention except for claiming that the graphite has a crystallite height of at least 125 nm instead claims that the graphite has a crystallite height greater than or equal to 95 nm.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the crystallite height be at least 125 nm, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the crystallite height be 125 nm, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

3. Claims 15-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5, 7 of U.S. Patent No. 6,617,072 in view of Lichtenberg et al. (5,500,309).

US Patent No. 6,617,072 claims a battery cell comprising a negative electrode comprising a hydrogen storage alloy active material; a positive electrode comprising an

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active composition comprising a nickel hydroxide material, a carbon material and an elastomeric polymer and an electrolyte. Claim 2 claims that the active composition is a paste. Claim 3 claims that the elastomeric polymer can be styrene-butadiene, styrene-butadiene block copolymer, styrene-isoprene-styrene block copolymer and styrene-ethylene-butadiene-styrene block copolymer. Claim 4 claims that the carbon material comprises graphite. Claim 5 claims that the graphite has a crystallite height greater than or equal to 95 nm. Claim 7 claims that the electrolyte is an alkaline electrolyte.

US Patent No. 6,617,072 claims the same invention except for claiming that the graphite has a crystallite height of at least 125 nm instead claims that the graphite has a crystallite height greater than or equal to 95 nm.

Lichtenberg et al. teaches in column 4, an electric accumulator (battery) comprising a positive nickel hydroxide electrode, a negative electrode comprised of a hydrogen storage alloy and an alkaline electrolyte, wherein the positive electrode comprised of nickel hydroxide and graphite having a crystallite size of at least 180 nm and a BET area of less than 6 m²/g. Lichtenberg et al. teaches in column 3, that the chemical resistance of the graphite is predominantly based on its high degree of crystallinity. It has been found that crystallite sizes of at least 180 nm and preferably of at least 200 nm are suitable. Lichtenberg et al. teaches in column 4, that the graphite cells exhibit a much smaller decline in capacity and within 2 to 3 subsequent cycles, a recovery takes place in which the original capacity is regained versus standard cells which have a serious drop in capacity.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a graphite that had a crystallite size of at least 180 nm because Lichtenberg et al. teaches graphite cells exhibit a much smaller decline in capacity and within 2 to 3 subsequent cycles, a recovery takes place in which the original capacity is regained versus standard cells which have a serious drop in capacity.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagihara et al. (5,543,250) over Lichtenberg et al. (5,500,309).

Yanagihara et al. teaches in column 2, lines 20-25, 31-36, a storage battery comprising a coated electrode with an active material layer coated on a metal substrate, wherein the metal substrate is a metal sheet having a plurality of punched holes.

Yanagihara et al. teaches in column 2, lines 26-31, providing an improved electrode for a storage battery, such as hydrogen storage alloy electrode, a nickel electrode, a zinc electrode or a cadmium electrode. Yanagihara et al. teaches in column 5, lines 47-62, that the metal substrates were used to prepare positive paste-type nickel electrodes.

Nickel hydroxide powder was mixed into paste form with graphite powder, nickel

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powder, cobalt powder, an aqueous solution of carboxymethylcellulose and styrene-butadiene rubber aqueous dispersion. Yanagihara et al. teaches in column 6, lines 1-10, that the nickel positive electrodes was combined with a cadmium negative electrode and an aqueous solution of potassium hydroxide dissolved with lithium hydroxide was used as the electrolyte.

Yanagihara et al. discloses the claimed invention except for specifically teaching that the graphite has a crystallite size L_c of at least 125 nm or at least 175 nm, the graphite has an interlayer distance between 0.335 nm and 0.345 nm; and that the graphite material has a BET surface area less than 15 square meters per gram.

Lichtenberg et al. teaches in column 2, lines 39-50, an accumulator having a positive nickel-hydroxide electrode, a negative electrode comprising a hydrogen storage alloy and an alkaline electrolyte, wherein the nickel hydroxide is admixed with graphite. Lichtenberg et al. teaches that the chemical resistance of the graphite used is predominantly based on its high degree of crystallinity. The crystallite sizes of at least 180 nm and preferably of at least 200 nm are suitable and the BET area of the material should be less than 6 m²/g. Lichtenberg et al. teaches in column 2, lines 20-25 and 39-41, that this will provide an alkaline Ni/metal hydride accumulator which can withstand the high temperature short circuit (HTSC) test which is conventionally performed by battery customers in the industry. Lichtenberg et al. teaches in column 5, lines 1-7, that the graphite is admixed in a proportion by weight of between 1 and 25%, preferably 15%.

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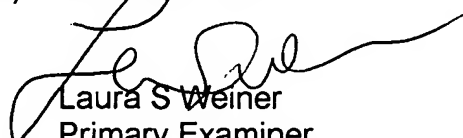
It would have been obvious to one having ordinary skill in the art at the time the invention was made to use graphite having a high degree of crystallinity where the crystallite sizes of at least 180 nm and preferably of at least 200 nm, and the BET area of the material should be less than 6 m²/g because Lichtenberg et al. teaches that this will provide an alkaline Ni/metal hydride accumulator which can withstand the high temperature short circuit (HTSC) test which is conventionally performed by battery customers in the industry.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S. Weiner
Primary Examiner
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September 6, 2006